

real fun try “centipede” with three climbers linked ... the middle climber has no hands to climb with!

Get Off!

While a group of climbers is traversing the “leader” calls out which holds are “off” ... meaning they can’t be touched. For example ... “yellow – foot chip” or “blue – crimp.” When the hold is called it is “off” until another one is called. This requires that the players learn the names of all the holds ... and of course, skill to stay on BOLDR TrainR.

TrainR Games

SEND-IT!

This is like the game of PIG played with basketball. The leader selects a series of holds. Each hold you touch is a letter ... the first hold is "S", second is "E", etc. The object is for each player to exactly copy the pattern of six holds. The first to do so becomes leader. The winner is the one who can make a pattern of six holds that none of the other climbers can complete.

Bring-It-On

This is similar to SEND-IT! But in this case the first climber does three moves. The second climber repeats those and then adds one more. The third climber does those four and adds one, and so on. Whoever fails to complete the sequence is the loser.

Remember Me

This is another extension of the same game. The new rule is that you must remember the moves and cannot give or take hints from your climbing partners. This forces you to develop the very basic climbing skill of planning and executing a movement sequence.

Catsup

One climber starts traversing. As soon as they have left their first four holds, second climber starts and tries to catch them using exactly the same holds. If the chaser is a better climber then they should give the leader a head start or use only three of the four holds the leader used.

Ray Charles

Climber wears a blindfold while "leader" calls out moves, i.e. "Left foot cross over." This game is really fun with three or more climbers at once.

Captain Hook

Climbers can only use one hand, right or left. Unused hand has to stay in a pocket. It is fun to call out "Hook" when playing any of the other games ... just to make them harder.

Spider

Two climbers stand side by side facing BOLD R TrainR and take hold of each other's belts at the back. They now have two arms and four legs with which to climb. This is a great way to build teamwork. Try two teams playing Catsup. For



Overhang Climbing

Since this is upside down climbing it is impossible to get your body weight on your feet in this type of climbing, but footwork is still essential to success. Rather than use gravity to keep your feet on a hold, you must use counter-force. If possible keep your arms straight as this puts the weight mostly on your ligaments and tendons rather than using muscle strength. Back stepping is very effective in overhang climbing because it allows you to use your leg muscles to hold your hips, and most of your body weight, close to the climbing surface. You will commonly back step with the same foot as the hand you are trying to advance to the next hold. You then alternate to the other side to advance the other hand and so forth. To try a very advanced technique the "drop knee" is a variation of the back step used when the footholds face each other. This is a stemming variation of the back step that lowers the center of gravity closer to the feet and takes more of the load off of the arms. Just do a regular back step but bend and point the knee of the back stepping leg at the ground.



Back Stepping

Most useful on steep terrain, this technique involves rotating your hips parallel to the wall and using the outside edge of the back foot, and the inside edge of the front foot. This will increase the reach of the inside arm and stabilize your weight to facilitate letting go with the inside arm to reach for the next handhold.



Stemming

This technique of bridging a span between two opposing features with counter-pressure is most commonly used in inside corners or chimneys. This often involves counter pressure with the hands as well. Back stepping can also be used in this technique. Other movements can be combined with this technique to facilitate vertical movement, but back stepping provides rest periods and is the foundation necessary for climbing corners and chimneys.



Heel Hooking

Heel hooking is raising your leg high enough that you are using the heel of your foot like a hand to hook over a hold or feature for purchase. This move requires great flexibility since your foot can be above your shoulders. An above the waist point of leverage allows you to pull yourself up to grab the same or next hold with your hand. Heel hooking can also be used as a stabilizing move to provide a rest for your arms or just to accommodate movement of the hands to other holds.



Drop Knee

Drop Knee is similar to back stepping but adds a rotation of the leg and knee in a downward slant that changes the center of balance to better reach holds that are relatively low and out rather than above.



Jam

Cracks in rock present a good opportunity for climbing. You can move up by jamming a foot and/or hand in the crack. There are many variations of this technique that maximize the security of the hold while minimizing the pain.









Mantel



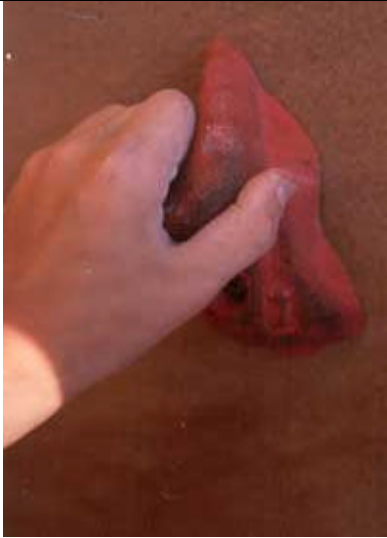
The Mantel technique is generally used to push up when there is not hold above you. It often comes at a raised area as shown above. It can also be used to the side or at the waist. It is one of the only moves that require strength from the chest muscles. Since it is used infrequently many climbers are weak in this area. Simple push-ups will build the strength needed to use this technique more effectively.

Fancy Footwork

Except on overhanging walls, you will support your body weight with your feet and use your arms for balance. Beginners may take some time to learn to find their balance. Once they do they will make rapid strides in their abilities to do more difficult climbs. The climbing moves below are generally listed in order from easiest to hardest.

	<p>Edging</p> <p>This is simply placing the side of the shoe on any obvious edge of a hold or the climbing surface. Look for the best, most positive, features on the hold and place the edge of the shoe directly on it.</p>
	<p>Smearing</p> <p>This technique involves “smearing” the sole of the shoe, usually the area under the big toe, on an irregularity of a foothold or the climbing surface itself. This is more advanced than edging and will allow more efficient use of handholds when mastered.</p>
	<p>Crossing</p> <p>Like Matching, Crossing can be done with either arms or legs. It involves reaching across your body for a hold. This is difficult because during the move the center of balance is directly in front of the climber who is at the same time forced away for their holds. During this move the climber is quite unstable but there are times when this is the only method to progress in the route.</p>

	<p>Pockets</p> <p>Pockets are "finger" holds that range in depth and number of fingers allowed. When climbing pockets, feel for the deepest most positive part of the pocket. Avoid using areas of pockets that only allow use of one finger as these can cause injury. Pockets also provide a good challenge as footholds because the pocket itself must often be used.</p>
	<p>Sidepulls</p> <p>These are holds that have their functional surfaces oriented vertically. To be used successfully they require considerably control of torsional forces across the body and provide more challenging footholds. Leaning away from the hold and using the feet to provide counter-pressure is the generally accepted technique.</p>
	<p>Underclings</p> <p>This is essentially an upside down handhold with a downward facing gripable feature that is grasped with the palm facing up. This technique uses counter pressure against your feet. If you use as much of your hand as possible behind the hold and find good footholds this move will require less arm strength. Here the foot is used in a Toe Hook Undercling.</p>

	<p>Open Grip</p> <p>This grip subjects your hand to less stress than the cling grip. It is more like holding onto a ball. Place your fingers on the useable feature and cup your hand around the rest of the hold. This may not be possible on very low profile holds but it is good technique to use the open grip on larger shapes like pockets and slopers.</p>
	<p>Crimp Grip</p> <p>This grip subjects your fingers to the most stress, but is sometimes the only way to hold onto very small edges. This involves gripping the hold so that the first joint of each finger is actually bending backwards ... applying pressure to a small useable feature. While this is an occasionally useful type of grip it is generally better to use the Open Grip if possible, as this will strengthen the hand and fingers more quickly with less fatigue and risk of injury.</p>
	<p>Pinch</p> <p>This type of grip adds the strength of the thumb. Many holds provide small deviations and dimples that will allow a thumb lock. This will dramatically increase the purchase the climber can get on an otherwise difficult hold.</p>

Planning your moves before you start will help you to make the most of each **BOLDR TrainR** climbing opportunity. Look for holds that are the same color. These will often represent a route with a specific "problem" for you to discover. Before you start your traverse, plan movement sequences of consistent difficulty from start to finish. Try and make every move count.

Use sit-down starts to get more moves out of a particular route. Consider starting from sidepull or undercling holds that force you to lift your bottom off the ground and do not provide positive footholds. The following are some of the fundamental terms and techniques for climbing **BOLDR TrainR**.

Spotting

Because **BOLDR TrainR** is low and has a soft landing surface there is little chance of injury when climbing. But real bouldering, out in natural settings, often exposes the climber to landing surfaces with rocks and other hazards. Seasoned always use a landing pad and a "spotter." The spotter's job is NOT to catch the climber but to guide them to a safe and controlled landing.

Spotting is to bouldering as belaying is to climbing. Practice spotting by learning the most important skill ... FOCUS! Be ready to spot every moment your partner is climbing. Staying alert is the most critical climbing skill you have to develop!

When spotting it is a good idea to keep your thumbs close to your palms so they won't get jammed. Just because the surface is soft doesn't mean that the climber won't roll an ankle and have a strain. So try to guide them to a graceful and square landing.

Get a Grip

BOLDR TrainR is intended as an introduction to sport climbing and is to be used in playgrounds recreationally and occasionally. Individuals who really get into sport climbing and climb frequently in gyms and on natural stone can suffer tendonitis. The instructions below illustrate methods that will improve your climbing abilities while they develop correct technique that will help you enjoy the sport for a lifetime with less stress while reducing the chance for injury. If your joints hurt when climbing ... stop until you can climb pain free.

The following are the most broadly recognized types of climbing grip techniques.



Cling Grip

This is a standard grip. Move your fingers around on an edge until you find the best purchase. Grip the edge with your fingers and fit your palm as best you can against the face. Apply you weight and move to the next hold.

TrainR Climbing

BOLDR TrainR provides professional level sport climbing challenges in parks and playgrounds. Where most sport climbing is focused on vertical challenges, **BOLDR TrainR** climbing is design to provide interesting horizontal traverses. Properly set routes provide opportunities to learn the fundamentals of sport climbing. **BOLDR TrainR** problems allow you to try difficult sequences close to the ground without the hassle of ropes, harnesses and belayers.

Remember that all climbing is dangerous, whether on a **BOLDR TrainR**, in a climbing club, on natural rock, on play equipment, in trees or at home on a ladder. Falls when climbing can lead to serious injury and even death.

If you're not prepared to fall ... don't get on the wall!

Falls are one of the leading causes of injury. Learning to climb can significantly reduce the likelihood of such accidents by improving your balance, strength and coordination.

When climbing the goal is not to avoid falling but to gradually learn your limits and how to safely recover when you have exceeded them. Knowing your limits is essential for beautiful climbing. For example, down climbing is often more difficult than climbing up. A good climber is never a "kitten caught up in a tree". They have learned how to climb down as well as they climb up.

Good climbers also tend to be great jumpers. You should develop a sense of your abilities and be prepared to drop gracefully rather than fall stupidly. It is essential to know at all times where you are in relation to **BOLDR TrainR** and the ground so that you will increase your chances of landing squarely on your feet.

Like all sports climbing has it's own rules and language. **BOLDR TrainR** is intended only as a beginning to this demanding sport. To get good at climbing and to climb higher than nine feet you should get instructions and use safety precautions such as a belay rope and helmet. Instructions in this booklet and on the **BOLDR TrainR** Sign are simply an introduction and do not fully prepare you for climbing higher.

That being said **BOLDR TrainR** climbing will provide you significant climbing experiences. There are fundamental moves that can be learned on **BOLDR TrainR**. For example "matching" in which the climber exchanges an opposite hand or foot on a hold already occupied is a basic climbing skill that is not learned on other playground climbers.

when the climber must "match" holds, that is bring the opposite hand or foot to the same hold they are currently occupying so that they can free themselves to move on. Children very quickly learn that having excellent balance is the only way to be a good climber.

Flexibility

Older folks spend a lot of time stretching, or at least they should. Without flexibility people stumble and fall because they can't pick their legs up high enough to clear a trip hazard. Flexibility means catching that ball that's just out of reach. Flexibility means being able to bend and not break in a fall.

BOLDR TrainR Example:

There are many occasions when traversing the **BOLDR TrainR** where the climber must extend their reach in uncommon ways. When they finally connect with a difficult hold they must then transfer their weight onto the extended limb. This action of "extend and load" is ideal for lengthening the muscles and increasing flexibility.

From this synopsis of the elements of functional play is easy to see that it has many benefits for children. It is also possible to see that some traditional equipment can provide elements of functional play experiences. **BOLDR TrainR** however is the first playground product that fully embodies this concept.

While providing developmental opportunities is great, the kids won't get them unless they like the equipment. **BOLDR TrainR** is really fun. This may really surprise many adults because when first see **BOLDR TrainR** they can't seem to understand why such a simple seeming challenge would appeal to children. But when kids see **BOLDR TrainR** they say, "Wow! That's neat!"

Playgrounds in the next century won't be like the today's playgrounds; they will be very different. New standards for safety and access insure this change. But they will also be different because a whole new category of equipment, functional play, will be part of the landscape. **BOLDR TrainR** is the essence of the next generation playground.

Movement Planning

Think back to the last time that you had to get into an unfamiliar position. Perhaps it was getting into a strange vehicle or chair or crawling under something to retrieve a lost article. These are situations that require movement planning. One of the skills we admire in an action hero is their uncanny knack of being able to make spectacular movements in unfamiliar terrain.

Example:

As children traverse **BOLDR TrainR** their center of mass is constantly changing. At the overhang areas they start out erect and end up nearly hanging upside down. In the curved areas they must transfer from hold to hold without a clear path before them. In these moments the kids are really action heroes.

Strength and Power

We all want to be strong. We want to play our sports and to do our work comfortably and effectively. This often requires strength. But strength only comes from making physical demands on our bodies. Use it or lose it is a fact of life.

BOLDR TrainR Example:

There are many strength challenges in **BOLDR TrainR**. Perhaps the best examples are the gains in handgrip and forearm strength. These muscles are used everyday in many ways. For example, they allow children to hit a ball or drive a nail.

Centering and Posture

Good posture requires work. Modern life involves a great deal of sitting at desks, driving cars and the like. These activities cause the front of the body to become tight. As a result most of us hunch. Think about how you're sitting as you read this. Focus on your spine and bring your head up ... your shoulders back ... and your elbows down. Doesn't that feel better? And you look better too. To maintain good posture we need to train the muscles in our backs to pull against those tight muscles in the front of our body. Good posture not only requires work from the muscles but also the ability to know the body's center of gravity. Being "centered" also means that you are much less likely to fall because you are able to move in all directions, not just forward.

BOLDR TrainR Example:

Awareness of center as well as improved posture is greatly enhanced by play on an activity such as the negatively inclined surfaces on **BOLDR TrainR**. These require a high level of the sense of center and the ability to place the body into the correct position to maintain it. To move from hold to hold the child has to provide internal stability to return to a balanced state at each "rest point" or they soon tire and cannot continue. Another test of balance comes

happens when suddenly the lights go out and you are forced to find your way in the dark. You have to create a mental image of your body and the space you're in and then adjust that image moment by moment while you move. In this situation you are really testing your proprioceptive skills.

BOLDR TrainR Example:

A good example of a child developing a sense of their body in space can be seen when a climber traverses **BOLDR TrainR**, going along the holds and around the wall. Movement from hold to hold involves positioning the body in very convoluted ways and using arm and leg leverage in an unaccustomed fashion. Or, try traversing **BOLDR TrainR** blindfolded!

Strength to Weight

Children naturally have a very high strength to weight ratio; that is why they are such great climbers. As they mature beyond six years of age they begin to lose that natural advantage. If, however, they have daily opportunities to climb they will retain a healthy level of fitness. But won't sports keep kids fit? Only in part; playing games may improve their cardiovascular fitness and leg strength but does little for the other parts of the body and thus sports often do not contribute significantly to child's overall strength to weight ratio. Good coaches know this. For example, Pat Reilly, the basketball coach, will not let his players on the court if their body fat content is above 12%. He requires strength training because he knows that it is not the player's weight but the muscle to fat that really counts in sports performance.

BOLDR TrainR Example:

Any form of climbing is the ideal way to develop a high strength to weight ratio but the climbing activities on **BOLDR TrainR** are especially good at forcing the climber to employ their muscles in uncommon and demanding ways.

Full Range of Joint Movement

In most of our everyday activity we do not ask our joints to move through their full range of movement. It is even more rare that we require strength through the full range. Mostly this is not a problem until we come across an especially demanding task, or have an accidental stumble, then we really must be able to use our limbs at their full range with force. Again trained athletes are different in this respect. They know that building this skill not only makes them better players but also is the single most important factor in reducing the frequency and severity of injury.

BOLDR TrainR Example:

Sport climbers illustrate this skill at the highest level. A good climber can do things with their bodies that leave most of us just shaking our heads. The climbing opportunities in **BOLDR TrainR** build this skill so that children can enjoy much of the same abilities and injury reduction as sport climbers.

and grace are different from untrained people. The "bearing" that these people enjoy comes from their fundamental movement skills. While some of this ability may be genetic, most comes from practice. For children, play can be an opportunity to develop these skills.

BOLDR TrainR Example:

If you have ever watched a good carpenter framing a house you've seen a good example of efficient movement. Bending, lifting, climbing, pulling, pushing, are executed in a smooth, seemingly effortless manner. This same fluidity of motion can be observed once children master **BOLDR TrainR**.

Core Stability

A major component in efficient movement is stabilizing the torso while the body is in motion. This core stability is subtle because it involves many small muscles rather than the bigger muscles that create large movements. Once the large muscles move the limbs it is these small muscles that hold the body in place.

BOLDR TrainR Example:

Visualize the dancer who has leaped into a pose and now must remain motionless. The apparent lack of movement does not mean that the dancer is not working. Indeed, they are working very hard. It is a measure of core stability that this "freeze" appears effortless. Development of this skill can easily be most easily seen on **BOLDR TrainR** in those areas where there is an overhang. Traversing these sections requires a high level of core stability.

Joint Stability

When we talk about core stability we are looking at the body as a whole, but core stability is in fact composed of many smaller muscle groups that stabilize the joints. This can clearly be seen when people try inline skates for the first time; their ankles lack the strength to support them. The ability of a football player to dodge or "juke" a tackle is a great example of how joint stability combined with power and centering leads to high levels of movement skill.

BOLDR TrainR Example:

Unexpectedly step on a pebble and what happens? Most people stumble, twist their ankle and fall, perhaps breaking a bone. But if their ankles are strong then they are able to support their weight even when their foot is at an angle and they can avoid an unexpected fall and continue on unhurt. **BOLDR TrainR** builds joint stability throughout the child's body though the demands made as they move from hold to hold.

Proprioception

Kids often seem to be clumsy; they bump into things and stumble. It is easy to understand why this is so, their bodies are constantly changing size and shape. They simply don't know with any real precision where their bodies, arms and legs are in space. To understand proprioception consider what

But it is a curious thing that the past two decades have seen increased regulation with stricter and stricter limitations on what play equipment can be manufactured but at the same time there has been very little reduction in the overall accident rate.

How can it be that modern "safe" equipment is not really safer? It a word ... it's boredom. Kids quickly tire of today's generic play equipment. It doesn't take them long to exceed the limits of "proper" play and injuries can and do occur.

BOLDR TrainR takes another path. It is designed to endlessly present difficult challenges in a safe context. **BOLDR TrainR** throws away decks and the required railings because we know kids climb all over play equipment anyway. Railings are just a great place to perch.

Risk managers have long known that safety is an attitude. The safest workplace can result in accidents if the workers are heedless of their behaviors. **BOLDR TrainR** purposefully looks tough. When you use **BOLDR TrainR** the message is clear ... "If you're not prepared to fall ... Don't get on the wall!" While **BOLDR TrainR** has a challenging appearance in reality it is no different in risk, height, or fall potential than any other play activity. The only difference is its attitude.

BOLDR TrainR and Access

When the decks went away, so too went the barriers they create. You don't have to travel a route to play ... it is right before you. Direct access! Children play to the limit of their ability. No help, no barriers, no excuses.

This may seem like a tough attitude ... and it is. We strongly believe that not only do all children have a right to play, they also have a right to challenge. The core idea of functional play is that the challenge relates directly to everyday movement requirements. These are abilities that all children must learn, or if they cannot, then they must develop compensatory skills. We all have to cope with the real world and functional play presents these challenges without apology.

Of course, when many decks at many levels are joined in a huge architecture, the route of travel to play becomes tortuous for children with disabilities. As the U.S. Access Board so clearly established, ramps and transfer points are a necessity to reduce the impact of these architectural barriers.

Play events that are accessed directly, such as swings, spring toys, and freestanding climbers, require an accessible route to the equipment. **BOLDR TrainR**, as a direct access play activity, is also required to have an accessible route to the equipment.

Elements of Functional Play

Efficiency of Movement

For most people it is easy to spot a trained dancer or athlete. The higher level of an athlete's training the easier it is to see how their movements, posture,

The BOLDR TrainR Revolution

The designer and philosopher Buckminster Fuller talked a lot about how old language traps us into old concepts. We can't create new ideas without inventing new words with which to think. For example the invention of the term "play event" is fundamental to the play structure concept. A play structure becomes "multi-function" by virtue of its many attached events.

For the past century and a half there has been no new active play event category. The equipment buyer today is still only able to choose the same old swings, slides, seesaws, climbers and monkey bars. The only advancement is that they are available in bewildering numbers of shapes and colors.

BOLDR TrainR represents the first new active play concept since playgrounds were invented. **BOLDR TrainR** introduces "functional" play.

What is Functional Play?

To understand functional play we need to see it in the context of the benefits of traditional play events. While a "play event" is often thought of as a single activity it is really composed of one primary attraction and several ancillary elements. For example, swinging primarily stimulates the inner ear, the vestibular system. But it also has motor and visual components. Monkey bars are primarily meant to build upper body strength but also require coordination, and lateralization, the ability to move the right and left sides of the body independently.

The concept behind functional play is that it presents the child with a challenge that directly correlates to a movement skill that has practical application in everyday life. In a word, it is functional.

Why is this important? Play can and should be more than just an exciting stimulant. Sure swinging is fun but it really does little for the child's development. Functional play is all about identifying specific day-to-day activities and helping a child grow by providing play challenge that develops useful skills.

Does this mean that functional play is less fun? Quite to the contrary! As you probably know from your own experience sliding, because it is so repetitive, quickly becomes boring. Its not long until kids learn that the most fun on slides is running up the chute rather than riding down. Because **BOLDR TrainR** provides complex challenges it is substantially more engaging and thus much less likely to produce such inappropriate behaviors.

BOLDR TrainR and Safety

These days every playground operator is very concerned about safety. Since **BOLDR TrainR** is a product of Beckwith Associates. As a charter member of the ASTM playground equipment safety committee and used as reference by the CPSC it goes without saying that it fully complies with standards.

Introduction to

BOLDR TrainR

The following Manual is designed to cover all aspects of **BOLDR TrainR** use. It explains how to set **BOLDR TrainR** for use and provides an introduction to **BOLDR TrainR** climbing. We'll start off with some history.

A Little Background

It seems as though playgrounds have been around forever but, as the history of humankind goes, they are an astonishingly recent phenomena. Dating back just over a hundred and fifty years, playgrounds are an invention of the Industrial Revolution. The very first playgrounds included swings, slides, seesaws, climbers and monkey bars. For the next century nothing fundamental changed.

The '60's was an era of experimentation in playground design often referred to as the "Creative Playground Period". In that period the design of play settings was expanded beyond active play to include social, constructive and pretend play.

During this period the older types of active play also underwent a change. Experimentation by several designers resulted in what has become known as the "multi-function play structure." From a product and marketing standpoint this idea was revolutionary. But in terms of the actual benefits to children the new play structure idea was not very innovative. It simply combines most of the same traditional equipment with linked decks. The advantage to kids is that the linked decks allow for games of chase and tag on the structure and these natural games in turn lead to higher utilization of the activities. For example, a freestanding climber is used mainly as a perch with little actual physical activity while a linked climber is used as a repeated route of access.

The composite play structure concept has, for the most part, driven all other products out of the playground equipment market. This is unfortunate for several reasons. First, because the attached events are basically the same as they were 150 years ago there has been little progress in creating more advanced challenges for children. Second, because a play structure requires linked and elevated decks it creates, by its very nature, barriers to play for many children with disabilities. While ramps and transfer stations reduce this problem they do not provide for truly equal access.

Table of Contents

Introduction to TrainR.....	1
A Little Background	1
The BOLDR TrainR Revolution	2
What is Functional Play?	2
BOLDR TrainR and Safety.....	2
BOLDR TrainR and Access	3
Elements of Functional Play	3
TrainR Climbing	8
Spotting	9
Get a Grip.....	9
Fancy Footwork.....	12
TrainR Games	16
SEND-IT!.....	16
Bring-It-On.....	16
Remember Me.....	16
Catsup	16
Ray Charles	16
Captain Hook	16
Spider	16
Get Off!.....	17

BOLDR

Are You Game?

TrainR

USE MANUAL

Version 4.2



Beckwith Associates, Inc.
707-824-9349 - Fax 824-9667
Box 880 - Forestville, CA 95436
beckwith@boldr.com